

Amendments to the Drawings:

A replacement sheet for Fig. 1 is enclosed herewith. The previous drawing sheet for FIG. 1 was missing a "Prior Art" legend. No new matter has been added.

REMARKS

Claims 1, 7, 8, 9 and 14 have been amended. Claims 1 and 14 have been amended to clarify the invention. Support for this amendment may be found in the specification from page 7, line 18 to page 10, line 18. Claim 7 has been amended to recite, “wherein one of the second percentage is less than the first percentage and the first percentage is less than the second percentage,” which is supported on page 10, lines 8-18 of the specification. Claim 8 has been amended to correct an informality and now recites the limitation originally found in claim 9. Claim 9 has been amended to recite an additional limitation. Support for this amendment may be found on page 10 of the specification, first full paragraph. Claims 1-20 are currently pending in the present application. No new matter has been added. Reexamination and reconsideration of the application are respectfully requested.

OBJECTION TO DRAWINGS

Paragraph 2 on page 2 of the Action objects to FIG 1 as missing a “Prior Art” legend. In response, a replacement sheet for Fig. 1 is enclosed herewith that includes the “Prior Art” legend. No new matter has been added. In view of the foregoing, it is respectfully requested that the objection to the drawings be withdrawn.

REJECTION OF CLAIMS 8-9 UNDER 35 U.S.C. 112

Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph for the reasons set forth in paragraph 4 on page 3 of the Action. In response, claim 8 has been amended to correct the informality and now recites the limitation originally found in claim 9. Specifically, claim 8 has been amended to recite, “wherein one of the second percentage is less than approximately one third of the first percentage and the second

percentage is less than approximately one half of the first percentage,” and to depend on claim 6. No new matter has been added. In view of the foregoing, it is respectfully requested that the claim rejections under 35 U.S.C. section 112 be withdrawn.

REJECTION OF CLAIMS 1-4, 6, 7, and 17-19 UNDER 35 U.S.C. 102(a)

Claims 1-4, 6, 7, and 17-19 are rejected under 35 U.S.C. 102(a) for the reasons set forth on pages 4 to 5 of the Action. Specifically, claims 1-4, 6, 7, and 17-19 are rejected under 35 U.S.C. 102(a) as being anticipated by McNulty et al. (US Pat. No. 6,686,676, hereinafter referred to as “McNulty” or “the McNulty reference”).

The rejections under 35 U.S.C. 102(a) are respectfully traversed, as applied to the amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth herein below.

The Federal Circuit has ruled, “Under 35 U.S.C. §102, anticipation requires that each and every element of the claimed invention be disclosed in the prior art. . . . In addition, the prior art reference must be enabling, thus placing the allegedly disclosed matter in the possession of the public.” Akzo N.V. v. United States Int'l Trade Comm'n, 1 USPQ 2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987). [emphasis added.]

Furthermore, the Federal Circuit has held, “Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.” W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). [emphasis added.]

On pages 4 and 5 of the Action, elements 20, 24, 28, 30, and 32, col.3, lines 9-1, col.4, lines 61-63, col.4, lines 46-60, col.5, lines 40-42, Table 1 and Figure 1 of McNulty are cited for teaching the device as claimed. However, it is respectfully

submitted that the McNulty reference fails to fairly teach or suggest inter alia the following claim limitation: “wherein the first light reflecting substance reduces the occurrence of light rays that stray from the predetermined light emission pattern,” as claimed in claim 1.

Particles 28 of McNulty are cited to disclose the first light reflecting substance as claimed. However, it is respectfully submitted that particles 28 are different from and do not fairly teach or suggest the first light reflecting substance, as claimed because of at least the following reasons. First, particles 28 perform a very different function than the first light reflecting substance, as claimed. The particles 28 are utilized to reduce UV radiation leakage (see col. 6, lines 57-60). Specifically, the particles 28 scatter un-absorbed UV radiation back to the phosphor material 26 (see col. 5, lines 11-17). The phosphor composition converts the UV radiation to visible light (see col. 4, lines 11-13). In contrast, the first light reflecting substance directs light in predetermined light emission pattern by reducing the occurrence of light rays that stray from the pattern as claimed.

Second, the application of using particles 28 to scatter UV radiation back to phosphor to reduce UV leakage is very different from and does not fairly teach using a first light reflecting substance to direct visible light in a predetermined pattern as claimed. Accordingly, it is respectfully submitted that the McNulty reference fails to fairly teach the device as claimed.

Furthermore, the dependent claims incorporate all the limitations of independent claims 1. In this regard, the dependent claims also add additional limitations, thereby making the dependent claims a fortiori and independently patentable over the cited references.

Regarding claim 6, for the reasons presented above, it is respectfully submitted that the scattering layer 60, as described in col. 6, lines 46-60, does not fairly teach or suggest the second encapsulant with the second light reflecting substance as claimed.

Regarding claim 7, it is respectfully submitted that McNulty does not fairly teach or suggest, “wherein the second percentage is less than the first percentage,” as claimed. Applicant respectfully requests that the next Action point out a specific portion of McNulty relied upon for this teaching. Furthermore, assuming that the volume of the scattering layer 60 is less than the volume of the encapsulating structure 30, which is not conceded, this does not imply that the second percentage is less than the first percentage since there is no teaching in McNulty about the relationship between the amount of scattering material in the scattering layer 60 and the amount of scattering material in the structure 30. Since a percentage is a function of both the numerator (e.g., amount of scattering material) and the denominator (e.g., total volume), knowing only the denominator is insufficient to draw conclusions about the percentages and the relationship there between.

Regarding amended claim 9, it is respectfully submitted that the McNulty reference fails to fairly teach or suggest, “first encapsulant has a reflecting strength and the second encapsulant has a reflecting strength; wherein the reflecting strength of the first encapsulant is greater than the reflecting strength of the second encapsulant,” as claimed.

Regarding claim 17, the Action cites col. 5, lines 40-42 as teaching a particle size of 40 microns. However, upon closer review, it appears that the cited portion teaches a particle size of 40 nanometers (see line 41), which is about 1000 times smaller than the size as claimed. This nanometer size is further supported by the embodiment

described in col. 6, lines 61 to 67, in which air bubbles of nanometer size (see line 63) are used for the scattering. Consequently, McNulty does not fairly teach or suggest the range of mean sizes as claimed.

Regarding claim 18, the entry in TABLE 1 for calcite is used to teach calcium carbonate as claimed. However, it is respectfully submitted that calcite does not fairly teach calcium carbonate since calcite has a different chemical formula than calcium carbonate. For example, the chemical formula for calcite is CaCO_2 whereas the chemical formula for calcium carbonate is CaCO_3 .

In view of the foregoing, it is respectfully submitted that the McNulty reference fails to teach or suggest the circuit and method as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. section 102(a) be withdrawn.

REJECTION OF CLAIMS 10-16 UNDER 35 U.S.C. 103(a)

Claims 10-16 are rejected under 35 U.S.C. 103 for the reasons set forth on pages 5-6 of the Action. Specifically, claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNulty et al. (US Pat. No. 6,686,676, hereinafter referred to as “McNulty” or “the McNulty reference”).

The Action states on page 6 that “although McNulty does not recite a range for the first percentage .. It would have been obvious to one of ordinary skill in the art at the time the invention was made to establish an optimum or workable range ..”

The rejections under 35 U.S.C. 103 are respectfully traversed, at least insofar as applied to the amended claims, and reconsideration and reexamination of the application is respectfully requested for the reasons set forth hereinbelow.

As advanced previously, it does not appear that McNulty fairly discloses, “wherein the first light reflecting substance reduces the occurrence of light rays that stray from the predetermined light emission pattern,” as claimed in claim 14. In this regard, it is respectfully submitted that it would not be obvious to arrive at the specific limitations recited by the method for constructing a LED device as set forth in claim 14 by reviewing McNulty’s disclosure. Furthermore, McNulty teaches the use of particles to scatter UV radiation, which is not even remotely related to directing visible light, and appears to work against the objectives and purposes of the LED as claimed.

In view of the foregoing, it is respectfully submitted that the McNulty reference, fails to teach or suggest the method as claimed. Accordingly, it is respectfully requested that the claim rejections under 35 U.S.C. Section 103(a) be withdrawn.

ALLOWABLE SUBJECT MATTER

Applicant graciously acknowledges the allowable subject matter as noted in paragraph 9 of the Action on page 6. However, it is respectfully submitted that the cited references do not fairly disclose the invention as claimed by the broader claims that are pending herein (e.g., the independent claims).

For all the reasons advanced above, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the pending claims are requested, and allowance is earnestly solicited at an early date. The Examiner is invited to telephone the undersigned if the Examiner has any suggestions, thoughts or comments, which might expedite the prosecution of this case.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP: NON-FEE AMENDMENTS, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 on the date below.

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April 12, 2006
(Date)